

10/648,709

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=> s 1,1,13-tetrachloropropane/cn
L1 0 1,1,13-TETRACHLOROPROPANE/CN

=> s 1,1,1,3-tetrachloropropane/cn
L2 1 1,1,1,3-TETRACHLOROPROPANE/CN

=> d

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 1070-78-6 REGISTRY
CN Propane, 1,1,1,3-tetrachloro- (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN **1,1,1,3-Tetrachloropropane**
FS 3D CONCORD
MF C3 H4 Cl4
CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DETHERM*, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, NIOSHTIC, RTECS*, SPECINFO, TOXCENTER, USPATFULL
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DT.CA CAplus document type: Conference; Journal; Patent
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

Cl₃C-CH₂-CH₂Cl

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

216 REFERENCES IN FILE CA (1907 TO DATE)
216 REFERENCES IN FILE CAPLUS (1907 TO DATE)
20 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file chemistry patent

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FILE 'ENCOMPLIT2' ACCESS NOT AUTHORIZED
FILE 'ENCOMPPAT' ACCESS NOT AUTHORIZED
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=> s 1070-78-6

48 FILES SEARCHED...

65 FILES SEARCHED...

L3 264 1070-78-6

=> s l3 and (iron or ferrous or ferric)

31 FILES SEARCHED...

57 FILES SEARCHED...

L4 48 L3 AND (IRON OR FERROUS OR FERRIC)

=> dup rem l4

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L5 38 DUP REM L4 (10 DUPLICATES REMOVED)

=> d 1-38 bib ab

L5 ANSWER 1 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

AN 1994:77016 CAPLUS

DN 120:77016

TI Preparation of 1,1-dichloro-3-phenylpropene

IN Sagatelyan, Shavarsh A.; Evdokimova, Olga I.

PA All-Union Scientific-Research Institute of Chemical Reagents and Pure Chemical Substances, Erevan, USSR

SO U.S.S.R.

From: Izobreteniya 1992, (15), 96.

CODEN: URXXAF

DT Patent

LA Russian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	SU 1728213	A1	19920423	SU 1990-4819244	19900424
PRAI	SU 1990-4819244		19900424		
OS	CASREACT 120:77016				

AB The title compound is prepared in a simplified, higher-yielding process by alkylation of benzene with 1,1,1,3-tetrachloropropane at reflux in the presence of a catalyst comprising a mixture of zinc chloride and **ferric** chloride in a mass ratio of 6:1 ; the process is conducted at a molar ratio of 1,1,1,3-tetrachloropropane to zinc chloride to **ferric** chloride of 1:0.02:0.003.

L5 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:228314 CAPLUS

DN 114:228314

TI Metal complex catalyst for addition reaction of carbon tetrachloride to ethylene

AU Lavrent'eva, E. A.; Ponomarev, V. I.; Lavrent'ev, I. P.

CS Inst. Strukt. Makrokin., Chernogolovka, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1990), (12), 2794-8

CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

AB FeIIFeIII2Cl8(AcNMe2)6 catalyzed the title reaction to give ClCH2CH2CCl3 with 98% selectivity at 55-60% conversion of CCl4. A coordination-ionic mechanism was proposed.

L5 ANSWER 3 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

10/648,709

AN 1989:195133 CAPLUS
DN 110:195133
TI Preparation of catalysts for converting 1,1,1,3-tetrachloropropane to
3,3,3-trifluoropropene by reaction with hydrogen fluoride
IN Baizer, William X.; Bixler, Jr Robert L.; Meddaugh, Michael D.; Wright,
Antony P.
PA Dow Corning Corp., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4798818	A	19890117	US 1987-125901	19871127
	CA 1326480	A1	19940125	CA 1988-578196	19880926
	JP 01168347	A2	19890703	JP 1988-282627	19881110
	JP 07047127	B4	19950524		
	EP 319153	A1	19890607	EP 1988-310709	19881114
	EP 319153	B1	19920701		

R: DE, FR, GB, IT

PRAI US 1987-125901 19871127

OS CASREACT 110:195133

AB The catalysts with lasting activity are prepared by (A) mech. mixing, in the
absence of water, of Al fluoride prepared at <400° and a transition
metal compound of Co, Cr, Fe, Mn, Ni, Ti, or V; and (B) contacting the
resulting mixture with sufficient anhydrous HF to convert the transition metal
compound to a transition metal fluoride. Thus, slowly adding 200 g Al(OH)₃
to 400 g 47-52% HF in 1600 mL H₂O, maintaining the temperature at 60°,
keeping at 60° overnight and drying gave AlF₃, which was mixed with
3.2 % FeCl₃, heated to 250°, treated with HF for 1 h, heated to
400° with continuous feed of HF for another hour, and cooled under
N to 250° to obtain the desired catalyst. The catalyst when used
for the title reaction lasted for 34.5 h before losing >10% of its
activity.

L5 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

AN 1988:166926 CAPLUS

DN 108:166926

TI Reaction of chloroform with ethylene in the presence of
pentacarbonyliron-nucleophilic coinitiator systems

AU Kruglova, N. V.; Petrova, N. A.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1987),
60(7), 1600-4

CODEN: ZPKHAB; ISSN: 0044-4618

DT Journal

LA Russian

OS CASREACT 108:166926

AB The title telomerization with excess Me₂CHOH, HMPA or DMF as the
nucleophile and 2:1 CHCl₃-C₂H₄ gave Cl₂CHCH₂CH₂Cl as the major product,
along with 2-9% ClCH(CH₂)₄Cl, 3-5% CCl₂(CH₂CH₂Cl)₂, and, with small
nucleophile excesses, lesser amts. of telomers resulting from initial C-H
cleavage. The catalyst selectivity increased in the stated order of
nucleophiles.

L5 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

AN 1988:186812 CAPLUS

DN 108:186812

TI Addition of 1,1,1-trichloroalkanes to trimethylvinylsilane in the presence
of systems based on iron pentacarbonyl

AU Kamyshova, A. A.; Dostovalova, V. I.; Chukovskaya, E. Ts.

10/648,709

CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1987), (5), 1174-7
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 108:186812
AB Addition reaction of RCCl_3 ($\text{R} = \text{Me}, \text{CH}_2\text{ClCH}_2$) with $\text{CH}_2\text{:CHSiMe}_3$ in the presence of $\text{Fe}(\text{CO})_5$ and Ph_3P , DMF, HMPA or Me_2CHOH gave $\text{RCCl}_2\text{CH}_2\text{CHClSiMe}_3$ (I). Dehydrochlorination of I ($\text{R} = \text{CH}_2\text{ClCH}_2$) with $\text{Fe}(\text{CO})_5\text{-PPh}_3$ gave 71% of a mixture of (Z)- $\text{ClCH}_2\text{CH:CClCH}_2\text{CHClSiMe}_3$ and $\text{ClCH}_2\text{CH}_2\text{CCl:CHCHClSiMe}_3$.

L5 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 1986:555080 CAPLUS
DN 105:155080
TI 1,1,1,3-Tetrachloropropane
IN Astrologes, Gary W.
PA Halocarbon Products Corp., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4605802	A	19860812	US 1982-364175	19820401
	CA 1273645	A1	19900904	CA 1986-506579	19860414
	JP 62263134	A2	19871116	JP 1986-104996	19860509
	EP 247215	A1	19871202	EP 1986-107098	19860526

R: CH, DE, FR, GB, IT, LI, NL

PRAI US 1982-364175 19820401
OS CASREACT 105:155080
AB Ethylene is reacted with CCl_4 in the presence of a phosphite ester [especially $\text{P}(\text{OEt})_3$ or $\text{P}(\text{OBu})_3$] and powdered Fe catalyst to yield 1,1,1,3-tetrachloropropane (I). Optionally, added FeCl_3 may be present. The powdered Fe is especially electrolytic Fe powder or H-reduced Fe powder. In an autoclave at 90-110 psig C_2H_4 , CCl_4 .apprx.900, $\text{P}(\text{OEt})_3$ 5.5, electrolytic Fe powder 7.5, and FeCl_3 1.174 g were reacted at 95°, resulting in 75.9% I and 21.2% unreacted CCl_4 in the product, corresponding to 96.3% yield of I.

L5 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
AN 1987:195822 CAPLUS
DN 106:195822
TI Molybdenum hexacarbonyl as a catalyst for dehydrochlorination of compounds containing a trichloromethyl group
AU Kuz'mina, N. A.; Blinova, N. V.; Chukovskaya, E. Ts.; Grechkina, E. M.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1986), (5), 1139-42
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 106:195822
AB Heating $\text{CCl}_3\text{CH}_2\text{R}$ [I; $\text{R} = \text{n-hexyl}, (\text{CH}_2)_3\text{Cl}, \text{CH}_2\text{Cl}, \text{CHClC}_5\text{H}_{11}\text{-n}$] with 0.03 equiv $\text{Mo}(\text{CO})_6$ gave 14-98% $\text{CCl}_2\text{:CHR}$ (II; same R) and 0-10% $\text{Cl}_2\text{CHCH}_2\text{R}$ (same R) with 70-100% I conversion. I ($\text{R} = \text{n-hexyl}$) gave 74% II with 0.03 equiv 1:1 $\text{Fe}(\text{CO})_5\text{-Ph}_3\text{P}$, but only 30% II with no Ph_3P . Other $\text{M}(\text{CO})_6$ ($\text{M} = \text{W}, \text{Cr}$) or $\text{Mn}_2(\text{CO})_{10}$ were ineffective catalysts alone or with Ph_3P or DMF.

L5 ANSWER 8 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
AN 1987:195821 CAPLUS
DN 106:195821

10/648,709

TI Hydrogenolysis of a carbon-chlorine bond in a dichloromethylene group in polychloroalkanes initiated by pentacarbonyliron, decacarbonylmanganese, or tert-butyl peroxide with triethylsilane
AU Kiseleva, L. N.; Rybakova, N. A.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1986), (5), 1136-8
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 106:195821
AB Reduction of ClCH₂CH₂CCl₂CH₂CHClR (I; R = H, Bu, n-pentyl) with 1 equiv Et₃SiH and 5-20% of the title initiators gave 71-92% ClCH₂(CH₂CHCl)₂R (II; same R) with 35-96% I conversion. Using 20% Mn₂(CO)₁₀ gave 85-90% II with 82-96% I conversion.

L5 ANSWER 9 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7

AN 1985:203584 CAPLUS

DN 102:203584

TI 1,1,2,3-Tetrachloropropene

IN Woodard, Scott Santford

PA Monsanto Co., USA

SO Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 131560	A1	19850116	EP 1984-870092	19840704
	EP 131560	B1	19870812		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL				
	US 4535194	A	19850813	US 1983-511131	19830706
	AT 28853	E	19870815	AT 1984-870092	19840704
	DK 8403297	A	19850107	DK 1984-3297	19840705
	AU 8430318	A1	19850110	AU 1984-30318	19840705
	JP 60036429	A2	19850225	JP 1984-138112	19840705
	JP 02047969	B4	19901023		
	ZA 8405179	A	19850327	ZA 1984-5179	19840705
	HU 34422	A2	19850328	HU 1984-2648	19840705
	CA 1230132	A1	19871208	CA 1984-458213	19840705
	SU 1452476	A3	19890115	SU 1984-3757914	19840705
	US 4650914	A	19870317	US 1985-690008	19850109
	SU 1470174	A3	19890330	SU 1986-4000868	19860106
	CA 1234156	A2	19880315	CA 1987-531178	19870304
	CA 1234157	A2	19880315	CA 1987-531179	19870304
PRAI	US 1983-511131		19830706		
	EP 1984-870092		19840704		
	CA 1984-458213		19840705		

OS CASREACT 102:203584

AB The FeCl₃-catalyzed isomerization of 2,3,3,3-tetrachloropropene (I) gave 1,1,2,3-tetrachloropropene. Thus, 1,1,1,2,3-pentachloropropene was dehydrochlorinated to I, and I was heated with FeCl₃ at 103° to give 1,1,2,3-tetrachloropropene.

L5 ANSWER 10 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1985:453693 CAPLUS

DN 103:53693

TI Monoadducts of olefins and telogens reactive therewith

IN Woodard, Scott Santford

PA Monsanto Co., USA

SO Eur. Pat. Appl., 44 pp.

CODEN: EPXXDW

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 131561	A1	19850116	EP 1984-870094	19840704
	EP 131561	B1	19861015		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL				
	AT 22877	E	19861115	AT 1984-870094	19840704
	DK 8403298	A	19850107	DK 1984-3298	19840705
	AU 8430317	A1	19850110	AU 1984-30317	19840705
	JP 60036428	A2	19850225	JP 1984-138113	19840705
	ZA 8405182	A	19850327	ZA 1984-5182	19840705
	HU 34421	A2	19850328	HU 1984-2649	19840705
PRAI	US 1983-511130		19830706		
	EP 1984-870094		19840704		

AB A monoadduct of a taxogen and a telogen was prepared in the presence of a metallic Fe source and a P(V) promoter containing a phosphoryl group. Thus, CCl₄, FeCl₃, (EtO)₃PO, and Fe wire were pressurized with C₂H₄ and the mixture stirred at 120° to give 9.6% yield of CCl₃CH₂CH₂Cl. Other P promoters included (BuO)₃PO, OP(OEt)₂CH:CH₂, and OP(OEt)₂OH. Mild steel bars and stainless steels were also used in place of Fe wire.

L5 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 8

AN 1986:148054 CAPLUS

DN 104:148054

TI EPR study of ·CCl₂CHX(CH₂)₃R radical rearrangement involving a 1,5-hydrogen shift and transformations of these radicals

AU Gasanov, R. G.; Vasil'eva, T. T.; Freidlina, R. Kh.

CS Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1985), (11), 2507-12

CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

OS CASREACT 104:148054

AB A spin-trapping study confirmed the rearrangement of RCH₂(CH₂)₃CCl₂• (R = Me, Et, MeO) to HCCl₂(CH₂)₃CHR• (same R) via a 1,5-H migration. MeO(CH₂)₃CH₂CCl₂• (R = H, CCl₃) isomerized to HCCl₂CH₂CH₂CH(OMe)•, which were oxidized to HCCl₂CH₂CH₂CO₂Me.

L5 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1983:445947 CAPLUS

DN 99:45947

TI EPR study of the interaction of iron carbonyl (Fe(CO)₅) and metal carbonyl (M(CO)₆) with halogen-containing compounds in the presence of triphenylphosphine and M(CO)₅PPh₃ (M = chromium, molybdenum, tungsten)

AU Gasanov, R. G.; Ivanova, L. V.; Freidlina, R. Kh.

CS Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1983), (5), 1045-53

CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

AB Photoreaction of MCO_n (M = Fe, Cr, Mo, W) with CCl₄ in the presence of PPh₃ was investigated by ESR. Substitution of CO by PPh₃ led to the increase of the yield and activity of the metal-containing transients responsible for the generation of the organic radicals. During photolysis of substituted carbonyls of Cr, Mo and W in general cleavage of the metal-CO and not the metal-PPh₃ bond occurred.

L5 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1983:160189 CAPLUS

DN 98:160189

- TI Synthesis of polychloroalkanes with various chlorine containing groups
AU Zhiryukhina, N. P.; Kamysheva, A. A.; Chukovskaya, E. Ts.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1983), (1), 152-7
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 98:160189
AB Reaction of $\text{CH}_2:\text{CMeCl}$ with $\text{CCl}_3\text{CH}_2\text{CHCl}_2$ in the presence of $\text{Fe}(\text{CO})_5$ and $(\text{Me}_2\text{N})_3\text{PO}$ gave 42-60% $\text{MeCCl}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ along with 1-3% $\text{MeCHClCH}_2\text{CCl}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ and $\text{MeCHClCH}_2\text{CCl}_2\text{CH}_2\text{CH}_2\text{CHCl}_2$. $\text{CH}_2:\text{CMeCl}$ and $\text{CCl}_3\text{CHCl}_2$ gave 41-53% $\text{MeCCl}_2\text{CH}_2\text{CCl}_2\text{CHCl}_2$ and 7-8% $\text{MeCCl}_2\text{CH}_2\text{CCl}_2\text{CHCl}$ (Z-E 3.3:1).
- L5 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 9
AN 1982:526953 CAPLUS
DN 97:126953
TI Reaction of 1,1,1,3-tetrachloropropane with 1-hexene initiated by pentacarbonyliron, hexacarbonylmolybdenum, and decacarbonyldimanganese
AU Chukovskaya, E. Ts.; Kuz'mina, N. A.; Rozhkova, M. A.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1982), (6), 1345-9
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 97:126953
AB $\text{Fe}(\text{CO})_5$ was the most effective catalyst for the title reaction at 120-40° in the presence of Me_2CHOH cocatalyst, but $\text{Mn}_2(\text{CO})_{10}$ also catalyzed the reaction in the absence of Me_2CHOH . The major product was $\text{ClCH}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CHClBu}$ (I), and the I- $\text{ClCH}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CH}_2\text{Bu}$ ratio depended on the catalyst.
- L5 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 10
AN 1980:110458 CAPLUS
DN 92:110458
TI Addition of 1,1,1,3-tetrachloropropane to 1-hexene initiated by the iron pentacarbonyl + HMPA + N,N-dichloro-p-chlorobenzenesulfamide system
AU Rybakova, N. A.; Chukovskaya, E. Ts.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1979), (11), 2618-20
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 92:110458
AB Including p- $\text{ClC}_6\text{H}_4\text{SO}_2\text{NCl}_2$ (I) in the title initiator mixture increased the $\text{ClCH}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CHClBu}$ yield from the title reaction at 105° in air to 96%, vs. 40% in the absence of I.
- L5 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1979:574753 CAPLUS
DN 91:174753
TI Reduction of polychloroalkanes of $\text{CCl}_3\text{CH}_2\text{CHXY}$ type initiated by iron pentacarbonyl
AU Vasil'eva, T. T.; Kruglova, N. V.; Tarasova, T. V.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1979), (7), 1543-8
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
OS CASREACT 91:174753
AB $\text{Fe}(\text{CO})_5$ -initiated reduction of $\text{CCl}_3\text{CH}_2\text{CHXR}$ (X = Cl, R = H, Me; X = H, R = Me)

with Me₂CHOH gave Cl₂CHCH₂CHXR as the major products, along with products derived from recombination of the intermediate •CCl₂CH₂CHXR (I) followed by dechlorination (e.g., MeCHClCH₂CCl:CClCH₂CHClMe). No evidence for 1,3-H shift in I was observed

L5 ANSWER 17 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1979:21926 CAPLUS

DN 90:21926

TI Reaction of polychloroalkanes with pentacarbonyliron and hexametapol in the presence or absence of olefins studied by an EPR method using spin traps

AU Freidlina, R. Kh.; Gasanov, R. G.; Grigor'ev, N. A.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Doklady Akademii Nauk SSSR (1978), 242(2), 354-7 [Chem.]

CODEN: DANKAS; ISSN: 0002-3264

DT Journal

LA Russian

AB The yields of Cl₃C•, ClCH₂CH₂CCl₂•, and ClCH₂CH₂CCl₂CH₂CHBu• radicals, formed in the photoaddn. of ClCH₂CH₂CCl₃ to 1-hexene with a Fe(CO)₅-(Me₂N)₃PO catalyst, proceeded through sep. maximum at different concns. of catalyst components. This showed that self-inhibition occurred in the initiation stage. The radicals were trapped with nitrosodurene or tert-butylphenylnitron.

L5 ANSWER 18 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1978:546097 CAPLUS

DN 89:146097

TI Study of the reaction of carbon tetrachloride and 1,1,1,3-tetrachloropropane with 1-hexene, initiated by pentacarbonyliron and nucleophilic cocatalysts, by an EPR method using spin traps

AU Gasanov, R. G.; Freidlina, R. Kh.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Doklady Akademii Nauk SSSR (1978), 239(1), 94-7 [Chem.]

CODEN: DANKAS; ISSN: 0002-3264

DT Journal

LA Russian

AB The title photoreaction was carried out with Me₂CHOH, DMF, or (Me₂N)₃PO as cocatalyst or without cocatalyst, and the nitroxyl radicals formed with nitrosodurene (I), Me₃CNO, or α-phenyl-N-tert-butylnitron as trapping agent were analyzed by ESR. The radical yields obtained in the 1-hexene-CCl₄-Fe(CO)₅-I system were higher with cocatalysts than without them, and the increase depended on the nature and concentration of the cocatalyst.

L5 ANSWER 19 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:501917 CAPLUS

DN 87:101917

TI Tetrachloroalkanes

IN Takamizawa, Minoru; Okamoto, Haruo; Umemura, Mitsuo; Kohya, Kazuo

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 52059102	A2	19770516	JP 1975-134901	19751110
PRAI	JP 1975-134901		19751110		
AB	CCl ₃ CH ₂ CH ₂ Cl (I), CCl ₃ CH ₂ CH ₂ CH ₂ CH ₂ Cl (II), and CCl ₃ CH ₂ CHClMe were prepared by reaction of C ₂ H ₄ or propene with CCl ₄ in the presence of HC(OEt) ₃ , and FeCl ₂ or FeCl ₃ . Thus, C ₂ H ₄ was introduced into a mixture of CCl ₄ 800,				

HC(OEt)₃ 7.7, and FeCl₃·6H₂O 1.4 g in N until the pressure rose to 5 kg/cm² gage. The mixture was stirred 6 h at 120° while introducing C₂H₄ to keep the pressure at 10 kg/cm² gage to give 329 g I and 37 g II (total 93.2% yield).

L5 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1977:170762 CAPLUS
 DN 86:170762
 TI Reactions of gem-trichloroalkanes with unsaturated compounds in the presence of iron carbonyl (Fe(CO)₅) and a cocatalyst
 AU Freidlina, R. Kh.; Kuz'mina, N. A.; Kamyshova, A. A.; Polishchuk, S. D.; Chukovskaya, E. Ts.
 CS Inst. Elementoorg. Soedin, Moscow, USSR
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1977), (1), 174-7
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Russian
 AB Telomerization of CH₂:CHCl with RCH₂CCl₃ (I; R = Me, Cl₂CH) in the presence of Fe(CO)₅ and Me₂CHOH at 130-45° in a sealed ampul afforded MeZ(CH₂CHCl)nCl (Z = CH₂CCl₂, CH:CCl; n = 2, 3) and (Cl₂CHCH₂)₂CCl₂, resp. Analogous reaction of I (R = ClCH₂) with CH₂:CHCH₂Cl gave ClCH₂CH₂CCl₂CH₂R₁ (R₁ = CHClCH₂Cl, CH:CH₂) and (ClCH₂CH₂CCl₂CH₂)₂CHCl. Addition of I (R = H, ClCH₂) to CH₂:CMe₂ at 125-7° in the presence of Fe(CO)₅ and (Me₂N)₃PO yielded RCH₂CCl₂CH₂CMe₂Cl and traces of RCH₂CCl₂CH₂CMe:CH₂.

L5 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:427447 CAPLUS
 DN 83:27447
 TI Reactions of 1,1,1,3-tetrachloropropane with α-olefins catalyzed by triethyl phosphite-ferrous or ferric chloride
 AU Sato, Toru; Kurita, Naoyasu; Kise, Hideo; Seno, Manabu; Asahara, Teruzo
 CS Inst. Ind. Sci., Univ. Tokyo, Tokyo, Japan
 SO Nippon Kagaku Kaishi (1975), (2), 398-9
 CODEN: NKAKB8; ISSN: 0369-4577
 DT Journal
 LA Japanese
 AB The telomerizations of 1,1,1,3-tetrachloropropane (I) with α-olefins were carried out in the presence of P(OEt)₃-FeCl₂ or -FeCl₃. The main products were the simple adducts 1-substituted 1,3,3,5-tetrachloropentanes. The reaction proceeds by abstraction of Cl from I. The conversion of the olefin to the adduct increased with an increase in I to olefin ratio.

L5 ANSWER 22 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1974:551521 CAPLUS
 DN 81:151521
 TI 1,1,3-Trichloro-1-propene from 1,1,1,3-tetrachloropropane
 IN Fujimori, Kunihiko; Chiyomaru, Isao; Kubota, Renji; Takita, Kiyoshi
 PA Kumiai Chemical Industry Co., Ltd.
 SO Jpn. Kokai Tokkyo Koho, 2 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49066613	A2	19740627	JP 1972-107662	19721027
PRAI	JP 1972-107662		19721027		

AB Cl₃CCCH₂CH₂Cl (I) was dehydrochlorinated to Cl₂C:CHCH₂Cl (II) using anhydrous FeCl₃ as catalyst. Thus, I was heated with 0.2-0.6 g FeCl₃ 4-5 hr at 80-95° to give 85-6% II. The yield was lowered to 20-44% with >1 g

or <0.1 g FeCl_3 .

L5 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1973:536440 CAPLUS

DN 79:136440

TI Telomerization of methyl acrylate and methyl methacrylate by 1,1,1,3-tetrachloropropane initiated by **iron** pentacarbonyl and a nucleophilic reagent

AU Chukovskaya, E. Ts.; Rozhkova, M. A.; Freidlina, R. Kh.

CS Inst. Elementoorg. Soedin, Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1973), (8), 1782-8
CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

AB $\text{ClCH}_2\text{CH}_2\text{CCl}_3$ in telomerization with $\text{MeO}_2\text{CCH:CH}_2$ and $\text{HO}_2\text{CCH:CH}_2$ with large excess of the telogen and either isoamyl alc. or 2-ethylhexanol as the nucleophilic reagent gave at $110-40^\circ$ only 3-5% yields of products, but in the presence of PhNMe_2 or Me_2NCHO both adducts and telomers were formed in 2 series: $\text{Cl}(\text{CH}_2)_2\text{CCl}_2(\text{CH}_2\text{CXCO}_2\text{Me})_n\text{Cl}$ and $\text{Cl}(\text{CH}_2)_2\text{CCl}_2(\text{CH}_2\text{CXCO}_2\text{Me})_n\text{H}$ ($\text{X} = \text{H}, \text{Me}, n = 1-3$). Both are formed by reaction of the same radical intermediate with the Cl donor being the telogen and H donor being the nucleophile. The reactions were run as described earlier (1969) with $\text{Fe}(\text{CO})_5$ as the principal initiator aided by the added nucleophile. Yields of products were tabulated for this reaction and for similar ones with $\text{CH}_2:\text{CHCN}$ and $\text{CH}_2:\text{CMeCO}_2\text{Me}$. The products were hydrogenated over Pd/BaSO_4 . Replacement of Cl by H leads to mixed products, but may be a source of $\text{Cl}(\text{CH}_2)_2\text{CCl}_2(\text{CH}_2\text{CXCO}_2\text{Me})_n\text{Z}$ ($\text{X} = \text{H}, \text{Me}, \text{Z} = \text{H}, \text{Cl}$).

L5 ANSWER 24 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1973:491497 CAPLUS

DN 79:91497

TI Reaction of ethylene with $\alpha, \alpha, \alpha, \beta$ - and $\alpha, \alpha, \alpha, \beta, \beta$ -polychloroalkanes initiated by **iron** pentacarbonyl and isopropanol

AU Karapet'yan, Sh. A.; Belyavskii, A. B.; Kuz'mina, N. A.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1973), (6), 1272-5
CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

AB The title reaction in the presence of varying amounts of FeCl_2 hydrate, $\text{Fe} + \text{HCl}$, $\text{FeCl}_2\text{-FeCl}_3$, or $\text{Fe}(\text{CO})_5$ was studied for CCl_3R [$\text{R} = \text{CHCl}_2, \text{CH}_2\text{Cl}, (\text{CH}_2)_2\text{Cl}, \text{CHCl}(\text{CH}_2)_2\text{Cl}, \text{CCl}_2(\text{CH}_2)_3\text{Cl}$]. Addition of such compds., with 4th Cl in terminal position, to C_2H_4 occurred readily in iso- PrOH in the presence of either $\text{Fe}(\text{CO})_5$ alone or mixed with Fe chlorides or by the action of a steel plate and a small amount of HCl . Similarly facile was the reaction of 1,1,1-trichloroalkanes. In 1,1,1,2- or 1,1,1,2,2-polychloroalkanes, however, dechlorination took place that led to di- and trichloroalkenes, resp. In the ease of such loss of Cl the decreasing tendency follows the series $\text{CCl}_3\text{CCl}_2\text{R}, \text{CCl}_3\text{CHClR}, \text{CCl}_3\text{CH}_2\text{Cl}$, and $\text{CCl}_3\text{CHCl}_2$. The ease of addition to C_2H_4 is the opposite of the above order.

L5 ANSWER 25 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1973:123925 CAPLUS

DN 78:123925

TI Reaction of thiols with 1-heptene and 1,1,1,3-tetrachloropropane in the presence of **iron** pentacarbonyl

AU Kandrор, I. I.; Petrova, R. G.; Freidlina, R. Kh.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1973), (1), 167-70
CODEN: IASKA6; ISSN: 0002-3353

- DT Journal
LA Russian
AB The yields of products formed by the title reaction of PhSH and BuSH in the presence or absence of $\text{Fe}(\text{CO})_5$, FeCl_3 , or azobisisobutyronitrile were reported for reactions run at 75° or 140°. At the lower temperature the tetrachloride acts as inert diluent only and the RSH addition to the olefin is wholly inhibited by $\text{Fe}(\text{CO})_5$. At 140° the thiols reduce the tetrachloride to 1,1,3-trichloropropane and the effectiveness of $\text{Fe}(\text{CO})_5$ as an inhibitor of radical addition of RSH to olefins drops.
- L5 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1973:3603 CAPLUS
DN 78:3603
TI Addition of 1,1,1-trichloroethane and 1,1,1,3-tetrachloropropane to substituted olefins in the presence of iron pentacarbonyl and a nucleophilic additive
AU Chukovskaya, E. Ts.; Kuz'mina, N. A.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1972), (9), 2110-12
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
AB Slow addition of Me_2NPh , $\text{Fe}(\text{CO})_5$, $\text{CH}_2\text{:CHOAc}$, and $\text{CCl}_3\text{CH}_2\text{CH}_2\text{Cl}$ (I) over 3.5 hr to an equimolar amount I at 120-40°, then heating 1 hr at 120° gave 1,3,3,5-tetrachloro-1-acetoxypentane. $\text{CH}_2\text{:CHOAc}$ and CCl_3Me gave 15% 1,3,3-trichloro-1-acetoxybutane. Chloroprene similarly gave a mixture of 70% 1,4- and 30% 4,1-adducts [$\text{Cl}(\text{CH}_2)_2\text{CCl}_2\text{CH}_2\text{CCl:CHCH}_2\text{Cl}$ and $\text{Cl}(\text{CH}_2)_2\text{CCl}_2\text{CH}_2\text{CH:CClCH}_2\text{Cl}$], each of which existed in Z- and E-forms, with the Z-isomer predominant.
- L5 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1972:487798 CAPLUS
DN 77:87798
TI Addition of 1,1,1,3-tetrachloropropane to acrylonitrile in the presence of iron pentacarbonyl and nucleophilic additives
AU Kuz'mina, N. A.; Chukovskaya, E. Ts.; Rozhkova, M. A.; Freidlina, R. Kh.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1972), (4), 961-3
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
AB Addition of $\text{CCl}_3\text{CH}_2\text{CH}_2\text{Cl}$ to $\text{CH}_2\text{:CHCN}$ in the presence of $\text{Fe}(\text{CO})_5$ gave various proportions of $\text{ClCH}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CHClCN}$ (I) and $\text{ClCH}_2\text{CH}_2\text{CCl}_2\text{CH}_2\text{CH}_2\text{CN}$ (II). In the presence of Me_2NCHO I is favored, and PhNMe_2 favors II. Alcs. or MeCN lead to a mixture of I and II in low yields (4-6%), whereas with the best solvents the total yields were 31-5%. The reactions were run at 130-40° for .apprx.0.5 hr.
- L5 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1972:527093 CAPLUS
DN 77:127093
TI Reaction of ethylene with 1,1,1,3-tetrachloropropane initiated by hexaethylphosphorous-triamide-ferric chloride
AU Sato, Toru; Kurita, Ariyasu; Seno, Manabu; Asahara, Teruzo
CS Inst. Ind. Sci., Tokyo Univ., Tokyo, Japan
SO Yuki Gosei Kagaku Kyokaishi (1972), 30(5), 462-4
CODEN: YGKKA6; ISSN: 0037-9980
DT Journal
LA Japanese
AB The telomerization reaction of ethylene [74-85-1] with 1,1,1,3-tetrachloropropane [1070-78-6] initiated by

hexaethylphosphorous triamide [2283-11-6]-**iron**(III) chloride [7705-08-0] was investigated in a stainless steel autoclave under various reaction conditions (by changing temperature, ethylene pressure and composition of initiator). The reaction products were α , γ , γ , ω -tetrachloroalkane homologs which were the same as those from the reactions initiated by triethyl phosphite [122-52-1]-**ferric** salts; 80-90 weight % of the products were 1:1 telomer, 1,3,3,5-tetrachloropentane [24616-07-7].

L5 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1971:448334 CAPLUS
DN 75:48334

TI Telomerization of ethylene and carbon tetrachloride
AU Asahara, Teruzo; Sato, Toru
CS Inst. Ind. Sci., Univ. Tokyo, Tokyo, Japan
SO Kogyo Kagaku Zasshi (1971), 74(4), 703-5
CODEN: KGKZA7; ISSN: 0368-5462

DT Journal
LA Japanese

AB The telomerization of ethylene and carbon tetrachloride at 160°/60-70 atm in the presence of Et₃PO₃-metal salt gave the highest yield of carbon tetrachloride-ethylene telomer when FeCl₂ or FeCl₃ was used as the metal salt. The telomer obtained in the highest yield contained >90% 1,1,1,3-tetrachloropropane. A free radical mechanism was discussed.

L5 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1969:412514 CAPLUS
DN 71:12514

TI Adducts of carbon tetrachloride and ethylene, propylene, or butadiene
IN Asscher, Meir; Katchalsky, Aharon; Vofsi, David
SO Brit., 6 pp. Addn. to Brit. 1023423
CODEN: BRXXAA

DT Patent
LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1146463		19690326	GB	19660322

AB Cu or Fe salts catalyze the homogeneous reaction at elevated temperature of CCl₄ with ethylene, propylene, or butadiene. Thus, 15.4 g. CCl₄, 2 g. iso-PROH, 356 mg. **ferric** acetylacetonate, and 212 mg. benzoin in a 200-ml. Ag-lined autoclave were treated with 14 g. C₂H₄ at 100° and 1200 psi. for 12 hrs. to give 11 g. product, b₂₅ 60-140°, 55:45 ClCH₂CH₂CCl₃ClCH₂CH₂CH₂CH₂CCl₃; without benzoin, the yield was 1.5 g. Similarly, with CCl₄, CH₂Cl₂, Fe naphthenate, NET₃.HCl, and benzoin, C₃H₆ yielded 50% MeCHClCH₂CCl₃, or without NET₃-HCl, 38%; with CCl₄, MeCN, and cupric acetylacetonate, 5.4 g. C₄H₆ yielded 6.5 g. ClCH₂CH:CHCH₂CCl₃, b₂₅ 76-150°, and 2.6 g., b₁₅ 85-160°, mainly of mixed isomeric tetrachlorononadienes. The use of cupric stearate with ethylene or butadiene is disclaimed.

L5 ANSWER 31 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1967:28319 CAPLUS
DN 66:28319

TI Polymerization of ethylene. IV. The reaction between ethylene and carbon tetrachloride initiated by a redox catalyst systems
AU Mogi, Noboru; Takahama, Hiroshi; Takahashi, Akira
CS Showa Denko Co., Tokyo, Japan
SO Kogyo Kagaku Zasshi (1966), 69(6), 1218-24

CODEN: KGKZA7; ISSN: 0368-5462

DT Journal

LA Japanese

AB cf. CA 61, 4196h; 63, 16201c. The reaction between C₂H₄ and CCl₄ was initiated efficiently by organic peroxide-reducing agent-metal carboxylate catalyst systems at relatively low temperature. The reducing agent was benzoin and an amine such as aminoethylethanolamine or mono-, di-, or triethanolamine. For example, 1 + 10⁻³, 1 + 10⁻³, and 1 + 10⁻⁴ mole, resp., of Bz₂O₂, (I) benzoin, and metal (Fe, Pb, Zn, Co, Ni, or Mn) naphthenate were added to 1 mole of CCl₄, and C₂H₄ was bubbled into the reaction mixture at 50° for several hrs. The reaction rate was estimated from the rate of C₂H₄ consumption measured with a gas buret. The reaction products were analyzed by gas chromatography and substantially no compds. other than 1,1,1,3-tetrachloropropane were detected. Among the metal naphthenates tested, Fe naphthenate (II) was by far the most effective, while the kinds of acid groups of the Fe carboxylates had little effect on the effectiveness of the catalyst systems. The effectiveness of different kinds of organic peroxides was tested and it was found that lauroyl peroxide was the most effective, while cumene hydroperoxide was completely ineffective in the organic peroxides-benzoin-II catalyst systems. The reaction rate was proportional to the concentration of the organic peroxide, e.g. dicumyl peroxide (III), in the concentration range (III/CCl₄ mole ratio) 1.0-2.0 + 10⁻³ with the ratios benzoin/III = 1:1 and II/III = 0.1:1 and at 50°. The effects of the concns. of benzoin and II were also investigated. The apparent activation energy for the reaction calculated from the temperature dependence of the reaction rate was 6.4 or 8.5 kcal./mole when III or I, resp., was combined with benzoin and II. The value for the catalyst system I-triethanolamine-II was 7.5 kcal./mole. A considerable reaction rate was obtained even in the absence of I or II from the I-triethanolamine-II system and there seems to be an additivity between the reaction rates with both binary catalyst systems that gives the rate with the ternary catalyst system.

L5 ANSWER 32 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1964:22978 CAPLUS

DN 60:22978

OREF 60:4009a-c

TI Addition of carbon tetrachloride to unsaturated hydrocarbons

IN Asscher, Meir; Vofsi, David; Katchalsky, Aharon

SO 17 pp.

DT Patent

LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1334749		19630809	FR	
PRAI	IL		19610928		

AB Styrene (10.4 g.) and 31 g. CCl₄ was heated 15 hrs. at 100° with 0.17 g. CuCl₂·2H₂O and 0.6 g. Et₂NH₂Cl in 15 g. MeCN to give 84% 1,1,1,3-tetrachloro-3-phenylpropane. Benzoin (106 mg.) in 15.4 ml. CCl₄ and 135 mg. FeCl₃·6H₂O and 82 mg. Et₂NH·HCl in 10 g. tert-BuOH was treated in an air-free autoclave with 22 g. ethylene at 90° for 16 hrs. to give 39% 1,1,1,3-tetrachloropropane, 50% 1,1,1,5-tetrachloropentane, and 11% 1,1,1,7-tetrachloro-n-heptane. In the absence of benzoin, only trace quantities of the tetrachloro compds. were formed. The following RCH₂CCl₃ were prepared (R, b.p., and n_D²⁵ given): PhCHCl, b_{0.1} 84°, 1.5523; PhCHOMe, b_{0.5} 80°, 1.5280; ClCH₂CH:CH, b₂₅ 110°, 1.5042; MeOCH₂CH:CH, b₂₀ 103°, 1.4792; NCCHCl, b₂₅ 111°, 1.4931; MeO₂CCHCl, b₂₀ 111°, 1.4819; HOCH₂CHCl, b_{1.0} 66°, 1.5066; EtCHCl, b₂₅ 87°, 1.4779; C₆H₁₃CHCl, b_{0.8} 70°, 1.4749.

MeCHClCHMeCCl₃, b₂₅ 93°, n_{25D} 1.4869, was also prepared

L5 ANSWER 33 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1963:461505 CAPLUS

DN 59:61505

OREF 59:11248d-h

TI Addition compounds of alkenes with chloroform

PA Meir Asscher, Aharon Katchalsky, and David Vofsi

SO 12 pp.

DT Patent

LA Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI BE 622938

PRAI IL	19610928
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AB CHCl₃CHCHZr₁ (I) and CHCl₃CHCR₁: CR₂CHZr₃ (II) [R, R₁, R₂, R₃, H, alkyl, aryl, arylalkyl; Z, Cl, alkoxy], useful intermediates for the preparation of perfumes, were prepared by reaction of CHCl₃ with an alkene, arylalkene, or alkanediene in the presence of halogen transferring agents (as Cu or Fe salts in the one or other state of their valency) under addition of an amine hydrochloride to give excess Cl ions in ratio to the metal ions; the process is improved by addition of a reducing agent (e.g. benzoin, a sulfite) to hold at least a part of the halogen transferring agent in its lower valence during the reaction. Thus, 11.2 g. 1-octene, 36 g. CHCl₃, 0.5 g. FeCl₃.6H₂O, 0.5 g. Me₂NH.HCl, and 15 g. MeOH heated 22 hrs. at 142° in a closed apparatus, cooled, the mixture washed with N HCl and H₂O, and the solution distilled gave 80% I (R = H, R₁ = n-C₆H₁₃, Z = Cl), b₁₀ 71-81°. Butadiene (8.1 g.) was dissolved in a solution of 0.318 g. benzoin in 54 g. CHCl₃, a solution of 0.405 g. FeCl₃.6H₂O and 0.246 g. Et₂NH.HCl in 10 g. MeCN added, the mixture heated 16 hrs. at 130° in a Carius tube in which the air is replaced by butadiene, cooled (ice-salt), washed (0.1N HCl), and distilled to give 9.3 g. of a fraction, b₂₅ 100-40°, containing 90%II (R = R₁ = R₂ = R₃ = H, Z = Cl) and 6.8g. of a fraction, b₀ 0606 85-135°, containing a compound C₉H₁₃Cl₃. Similarly, optionally in the presence of benzoin and (or) Et₂NH.HCl, the following I were prepared (R, R₁, Z, b.p./mm., and n₂₅D given): H, C₆H₁₃, Cl, 90°/0.5, 1.4635; H, Et, Cl, 75°/25, 1.4619; Me, Me, Cl, 76°/25, 1.4683; H, Ph, Cl, 62°/0.1, --; H, Ph, MeO, 76°/0.3, 1.5192. Also the following II were prepared (R, R₁, R₂, R₃, Z, b.p./mm., and n₂₅D given): H, H, H, H, MeO, 105°/20, 1.4792; H, H, H, H, Cl, 100°/25, 1.4969. Belg. 622,939; 17 pp. Addition compds. of CCl₄ with substituted hydrocarbons (containing at least one nonaromatic double bond or a pair of conjugated double bonds) were prepared to give useful intermediates for the preparation of insecticides and pharmaceuticals; in the case of rubber a highly chlorinated product was obtained. The following compds. were prepared (product, b.p./mm., and n₂₅D given): PhCHClCH₂CCl₃, 84°/0.1, 1.5523; PhCH(OMe)CH₂CCl₃, 80°/1.5, 1.5280; CCl₃CH₂CH:CHCH₂Cl, 110°/25, 1.5042 (by-product was tetrachlorononadiene, b₀ 08 50-130°); CCl₃CH₂CH:CHCH₂OMe, 103°/20, 1.4792; CCl₃CH₂CHClCN, 111°/25, 1.4931; CCl₃CH₂CHClCO₂Me, 111°/20, 1.4819; CCl₃CH₂CHClCH₂OH, 66°/1.0, 1.5066; a mixture (prepared from H₂C:CH₂) containing CH₂ClCH₃CCl₃, CH₂Cl(CH₂)₃CCl₃, and CH₂Cl(CH₂)₅CCl₃, in 39:50:11 weight-% ratio, 60-152°/20, --; CCl₃CH₂CHClEt, 87°/25, 1.4779; MeCHClCH(CCl₃)Me, 93°/25, 1.4869; CCl₃CH₂CHClC₆H₁₃, 70°/0.8, 1.4749; a brown-gray powder containing 49.54% Cl and prepared from a solution containing 5% latex of natural rubber, --, --; Me(CH₂)₅CHClCH₂CCl₃, 87-95°/0.3, 1.4746.

L5 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1963:59294 CAPLUS

DN 58:59294

OREF 58:10063d-e

10/648,709

TI Chlorine activation by redox transfer. II. The addition of carbon tetrachloride to olefins
AU Asscher, M.; Vofsi, D.
CS Weizmann Inst. Sci., Rehovoth, Israel
SO Journal of the Chemical Society, Abstracts (1963) 1887-96
CODEN: JCSAAZ; ISSN: 0590-9791
DT Journal
LA Unavailable
AB cf. CA 55, 24539d. CCl₄ is added to olefins and vinylic monomers under the catalytic influence of **iron** (II, III) or copper (I, II) chloride, in a variety of solvents at 70-145°. Copper chloride completely suppresses telomerization. A free-radical chain mechanism is proposed for the addition in which metal chloride participates in the propagation as a chlorine atom transfer agent, thereby much enhancing the apparent reactivity of CCl₄ ("redox-transfer"). Exptl. support for this mechanism is presented. The reaction with but-2-ene gives a mixture of 1:1 diastereoisomeric adducts, the composition of which changes with catalyst, and, for copper catalysis, also with the solvent and with the excess of chloride ion. *cis*- and *trans*-But-2-ene give the same ratio of diastereoisomers. The initiation mechanism is discussed. At 82°, **ferric** chloride induces addition of CCl₄ to but-2-ene only in the presence of a reducing agent. This enables the estimation of the kinetic chain length, which has a much larger value than for a peroxide-induced reaction.

L5 ANSWER 35 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1963:461508 CAPLUS

DN 59:61508

OREF 59:11249c-d

TI Telomers

IN Takahashi, Akira; Mogi, Noboru; Takahama, Hiroshi

PA Showa Denko K. K.

SO 7 pp.

DT Patent

LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 37018389		19621128	JP	19610301
	US 3213149		1965	US	

AB Telomers were prepared by the reaction of ethylene or vinyl compds. and telogens in the presence of amines and heavy metal salts of organic acids. Thus, 476 parts CCl₄, 1.65 parts triethanolamine, and **iron** naphthenate (containing 0.034 part Fe) in an autoclave under N was kept at 50 atmospheric ethylene for 4 hrs. at 70°, cooled, ethylene and CCl₄ evaporated, and the telomer obtained in 214 parts yield; it gave 5 fractions of Cl(CH₂CH₂)_nCCl₃ (% yield, n, b.p. given): 8.2, 1, b₂₄ 58-61°; 53.2, 2, b₂₄ 111-13°; 22.3, 3, b₂ 92-4°; 10.3, 4, b₂ 120-4°; 6.0, ≥5, --).

L5 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1962:52908 CAPLUS

DN 56:52908

OREF 56:9961a-c

TI Telomers or adducts

IN Katchalsky, Aharon; Vofsi, David; Asscher, Meir; Levy, Edmond

DT Patent

LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	IL 13845		19611123	IL	
	GB 920855			GB	

AB Telomers formed by the reaction between CCl₄ as telogen and an

α -olefinic compound as taxogen may be prepared using an organic amine or ammonia as primary catalyst and cupric or **ferrous** salts as secondary catalyst. A sequestering agent such as ethylenediaminetetraacetic acid may also be added. The telomerization may be performed either in aqueous or in anhydrous medium. Safety hazards involved in the use of conventional type catalysts (benzoyl peroxide, azo compds.) are thus eliminated. The 12 examples given include the preparation of $\text{Cl}(\text{CH}_2\text{CH}_2)_n\text{CCl}_3$ ($n = 1$ through 5) and 1,1,1,3-tetrachloro-n-nonane.

L5 ANSWER 37 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1955:23480 CAPLUS

DN 49:23480

OREF 49:4496f-i,4497a-c

TI Chemical transformations of the trichloromethyl group in saturated polychlorohydrocarbons

AU Nesmeyanov, A. N.; Freidlina, R. Kh.; Zakharkin, L. I.

SO Doklady Akademii Nauk SSSR (1954), 96, 87-90

CODEN: DANKAS; ISSN: 0002-3264

DT Journal

LA Unavailable

AB cf. C.A. 47, 3789c. The CCl_3 group in polychloroalkanes is inert toward nucleophilic agents. 1,1,1-Trichloropentane does not react with NH_3 in EtOH even at 160° or liquid NH_3 at 140° , with NaI, or $\text{NaHC}(\text{CO}_2\text{Et})_2$. Other terminal trichloroalkanes give the same result. In $\alpha,\alpha,\alpha,\omega$ -tetrachloroalkanes only the terminal lone Cl reacts with nucleophilic agents. Thus NaI in Me_2CO reacts with 1,1,1,5-tetrachloropentane yielding 90% 1,1,1-trichloro-5-iodo-pentane, $b_{1.5} 78-9^\circ$, $n_{\text{D}20} 1.5480$, $d_{20} 1.8086$; the product is readily converted to the cyano derivative by treatment with KCN. Reaction of KOAc with 1,1,1,5-tetrachloropentane in hot AcOH 18 h. in presence of a little KI gave 86% 1,1,1-trichloro-5-acetoxypentane, $b_{3.5} 99-100^\circ$, $n_{\text{D}20} 1.4700$, $d_{20} 1.2859$; this was readily converted to 5,5,5-trichloro-1-pentanol, $b_{10} 112-12.5^\circ$, $n_{\text{D}20} 1.4897$, $d_{20} 1.3431$; other nucleophilic agents give similar results. Electrophilic agents attack the CCl_3 group preferentially (cf. C.A. 49, 2298b); the group being resistant to hydrolysis in basic solution, is rapidly attacked by acid solns. and in concentrated H_2SO_4 readily yields the CO_2H group. While CCl_3 group does not display Cl exchange for Br in presence of HBr it does so in the presence of electrophilic AlCl_3 . Passage of HBr into 1,1,1-trichloropentane at $4-5^\circ$ in the presence of a little AlCl_3 gave a good yield of 1,1,1-tribromopentane, $b_8 85-6^\circ$, $n_{\text{D}20} 1.5390$, $d_{20} 1.9882$. Similarly 1,1,1,5-tetrachloropentane yields 1,1,1-tribromo-5-chloropentane, $b_2 101-2^\circ$, $n_{\text{D}20} 1.5655$, $d_{20} 2.0902$. The cleavage of HCl from 1,1,1,2-tetrachloropentane by H_2SO_4 begins only at $140-60^\circ$; similar behavior is seen in 1,1,1,2,5-pentachloropentane. The action of FeCl_3 leads to HCl loss from 1,1,1,5-tetrachloropentane at $30-50^\circ$; 1,1,1,2,5-pentachloropentane requires $100-20^\circ$, yielding 1,1,2,5-tetrachloro-1-pentene, $b_8 92-3^\circ$, $n_{\text{D}20} 1.5113$, $d_{20} 1.4121$. Addition of Cl with cooling to 1,1-dichloro-1-pentene and 1,1,5-trichloro-1-pentene gave, resp., 1,1,1,2-tetrachloropentane, $b_8 72-3^\circ$, $n_{\text{D}20} 1.4825$, $d_{20} 1.3339$, and 1,1,1,2,5-pentachloropentane, $b_{12} 121-2^\circ$, $n_{\text{D}20} 1.5135$, $d_{20} 1.4807$. Action of free radical type reagents was examined in the action of 1,1,1,5-tetrachloropentane with PhMgBr in the presence of CoCl_2 , with Raney Ni and powdered Cu. In all cases the reaction took place at the CCl_3 group. No reaction took place with PhMgBr alone; in the presence of CoCl_2 there was formed a mixture of products from which were isolated Ph_2 and 1,5,5,6,6,10-hexachlorodecane (I); the products evidently arise from radical attack and the latter is accounted for by formation of $\text{Cl}(\text{CH}_2)_4\text{CCl}_2$ radical. Action of Raney Ni in EtOH gave, after 2 h. reflux, 37% I; powdered Cu gave the same result. While heterolytic reactions in terminal CH_2Cl group by nucleophilic agents, and in CCl_3 group by electrophilic agents proceeds well and give few

10/648,709

byproducts, the homolytic reactions of CCl₃ group are apt to give product mixture. The higher polychloroalkanes behave in the same way as the above-described pentanes. However 1,1,1,3-tetrachloropropane reacts differently; with NaCN, Na₂S or other nucleophilic agents it does not exchange Cl in the CH₂Cl group but undergoes HCl cleavage forming the olefin derivs.

L5 ANSWER 38 OF 38 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1951:3629 CAPLUS

DN 45:3629

OREF 45:635d-f

TI 1,1,1,6,6,6-Hexachlorohexane

IN Neuworth, Martin B.

PA Socony-Vacuum Oil Co., Inc.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 2519691		19500822	US	
AB	CCl ₃ (CH ₂) ₂ Cl (I) heated with Fe, Cu, or Al at 100-150° in the presence of H ₂ O yields CCl ₃ (CH ₂) ₄ CCl ₃ (II), m. 108-9° (from EtOH). Thus 30 cc. I, 25 g. powdered Fe, and 150 cc. H ₂ O are refluxed with stirring for 28 hrs., the mixture extracted with Et ₂ O, and the Et ₂ O evaporated to leave an oily residue from which II crystallizes in colorless needles (20% yield). II is useful as plasticizer for chlorinated resins and as intermediate for adipic acid.				

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